4K92-36

AN OVERVIEW OF THE NORTH PENINSULA SOCKEYE SALMON FISHERY FROM NELSON LAGOON TO STROGONOF POINT WITH EMPHASIS ON THE 1992 SEASON

By

Bruce M. Barrett
and
Robert L. Murphy

Regional Information Report[1] No. 4K92-36

Alaska Department of Fish and Game
Division of Commercial Fisheries
211 Mission Road
Kodiak, Alaska 99615

October 1992

---

[1]The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The Alaska Peninsula commercial salmon management area is separated into two distinct units: (1) South Peninsula, inclusive of coastal waters extending from Kupreanof Point to Scotch Cap; and (2) North Peninsula (NP), incorporating coastal waters west from Cape Menshikof to Cape Sarichef, which is divided into the Northwestern and Northern Districts (Figure 1). The later district includes the Nelson Lagoon to Strogonof Point reach which is a primary fishing area on the Alaska Peninsula. (Figure 2).

There are five fishing sections in the Nelson Lagoon to Strogonof Point reach (Figure 2; ADF&G 1992). The Nelson Lagoon Section is open to set gill net and drift gill net gear; the Herendeen-Moller Bay Section is open to drift gill net, set gill net, and purse seine gear, while the Bear River Section is open to drift gill net and purse seine gear. The Three Hills Section is only open to drift gillnetting fishing, whereas in the Ilnik Section, drift gill net and set gill net fishing is permitted. Essentially all the drift net effort in the Ilnik Section occurs outside Ilnik Lagoon (Murphy 1991).

By regulation, the NP commercial salmon season begins on 1 May in the Nelson Lagoon, Herendeen-Moller Bay, Bear River, and Ilnik Sections (ADF&G 1992). The Three Hills Section opens on 25 June, the Ilnik Section from Three Hills to Unangashak Bluffs opens on 5 July, and the Ilnik Section from Unangashak Bluff east to Strogonof Point opens on 15 July.

The NP fishery is managed for local chinook, sockeye, chum, and coho salmon stocks. Management emphasis on sockeye salmon is from 1 June through 15 September. The major

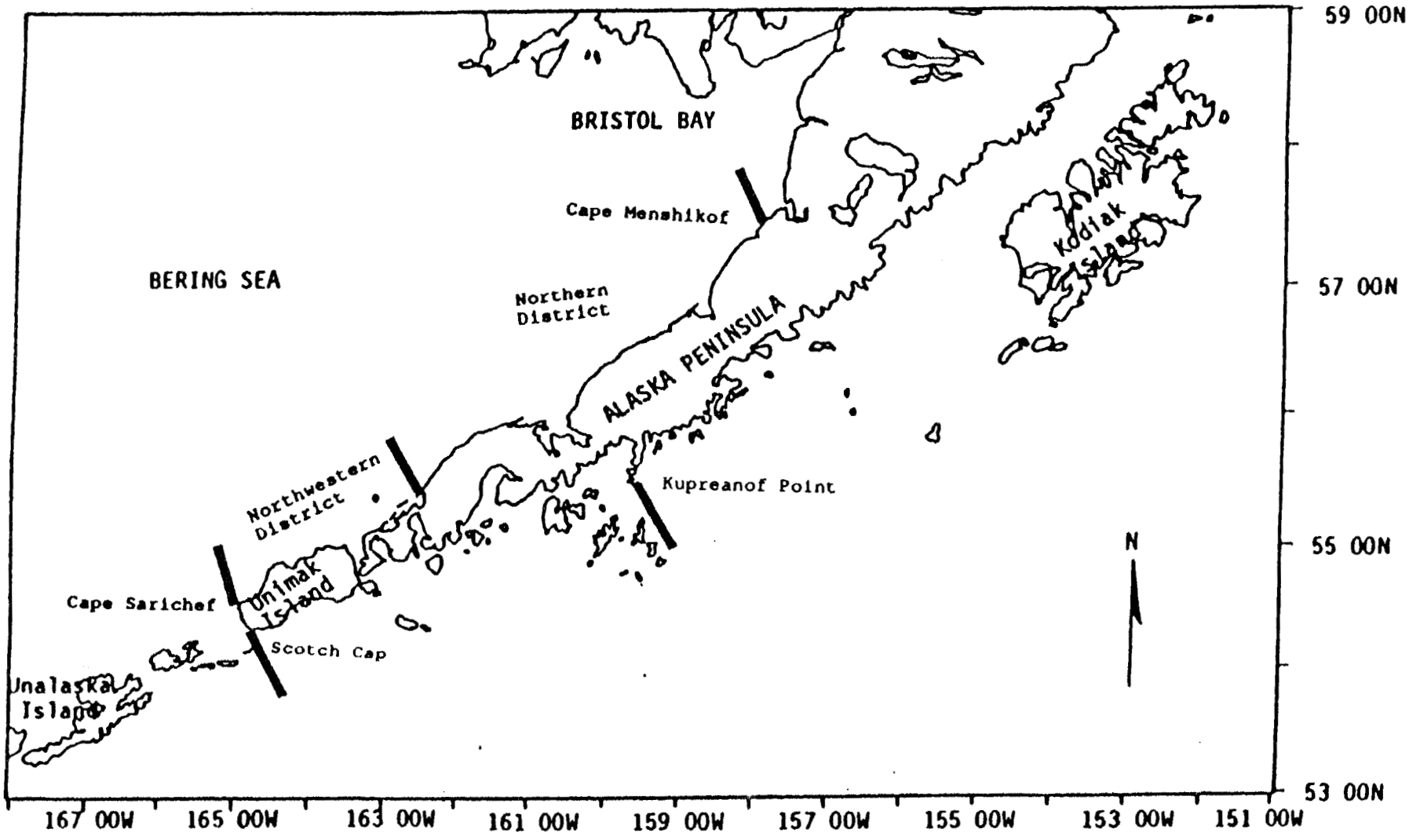

Figure 1. Map depicting boundaries of the Alaska Peninsula Management Area.

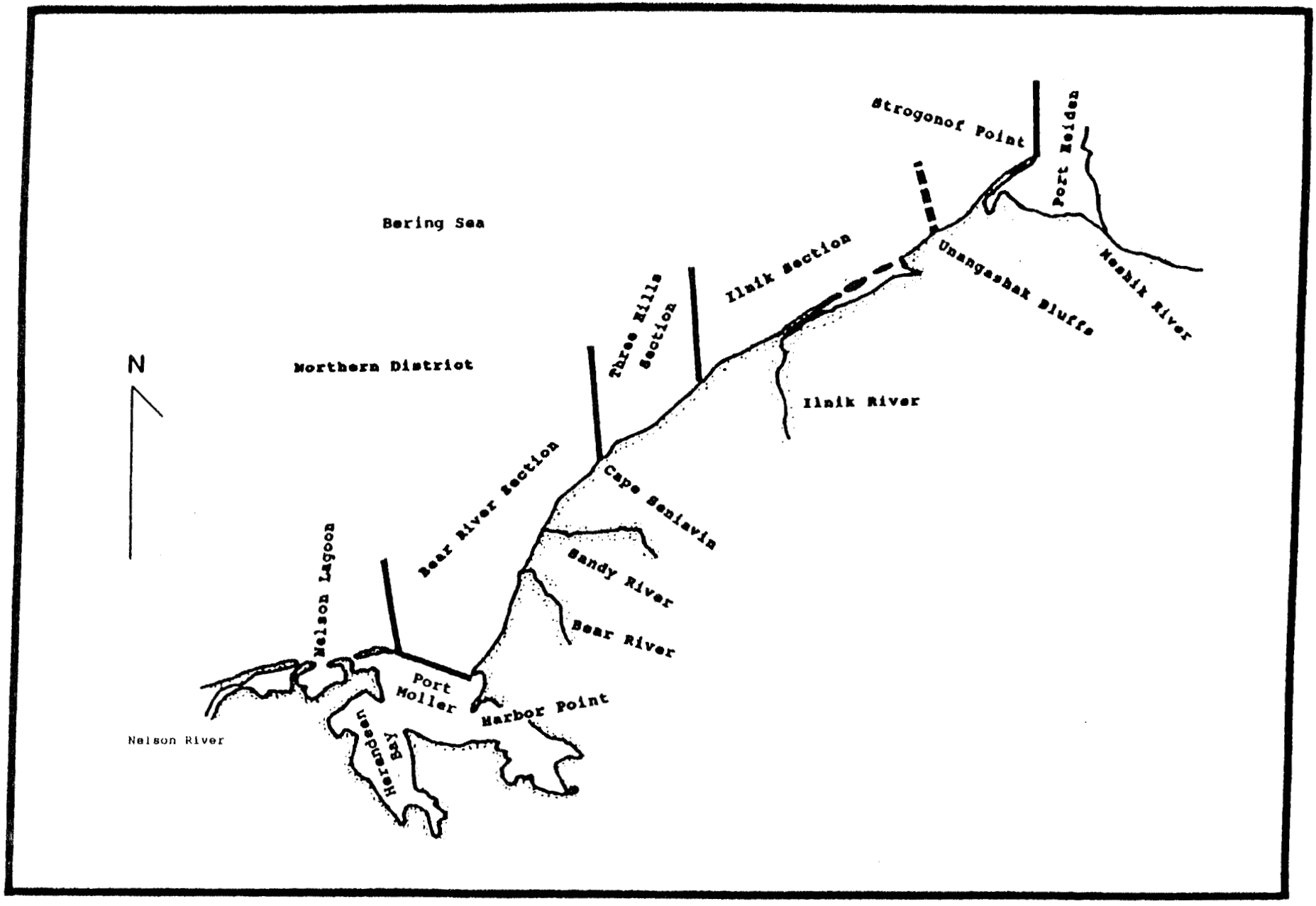

Figure 2. Map of the Harbor Point to Strogonof Point reach, with district sections depicted.

sockeye salmon systems in the vicinity of Nelson Lagoon to Strogonof Point are Bear and Nelson Rivers, followed by Ilnik, Sandy, Meshik, and Cinder Rivers (Figure 3). Escapements into Bear, Nelson, and Ilnik Rivers are counted through weirs, while the other systems are enumerated by aerial surveys. The combined escapement objective for all systems east of Nelson Lagoon is 370,000 - 525,000 fish (Table 1).

Local NP sockeye salmon are abundant along the northern shore of the Alaska Peninsula from early June through August (Figure 4). The Nelson River run starts in late June, peaks in early July, and ends in mid August. The Bear River early run begins in mid June, peaks in the first week of July, and ends in late July. The late run into Bear River begins mid July, peaks in early August, and ends in September. The Ilnik River run has a relatively short run timing; it starts in June, peaks in the first week of July, and is finished in mid July.

Terminal NP sockeye salmon fisheries occur in Nelson and Ilnik Lagoons, and near the mouths of the Meshik (Inner Port Heiden Section) and Cinder Rivers (Cinder River Section). Mixed stock fisheries occur in the Bear River, Three Hills, and Ilnik Sections. The Bear River and Three Hills Sections are managed for Bear River fish, whereas the Ilnik Section is managed for Ilnik River stocks prior to 16 July. Post 15 July, the Ilnik Section is managed on the basis of Bear River run strength, however time and area closures will be considered prior to 16 July if a conservation concern exists for Bear River and Ugashik River stocks. If Ilnik and Ugashik River runs are late and escapement objectives are not being met, an extension beyond 15 July will be considered to insure adequate escapement.

Table 1. Sockeye salmon escapement objectives and 1992 estimated total escapement for systems located within the vicinity of the Harbor Point to Strogonof Point reach.

System	Escapement Objective	1992 Estimated Total Escapement
Nelson River System	105,000-177,000	190,000
Bear River	200,000-250,000	450,000
Sandy River	20,000-30,000	35,000
Ilnik River	40,000-60,000	45,000
Meshik River	6,500-25,500	30,000
Cinder River	1,000-10,000	22,000
Total	367,500-525,500	772,000

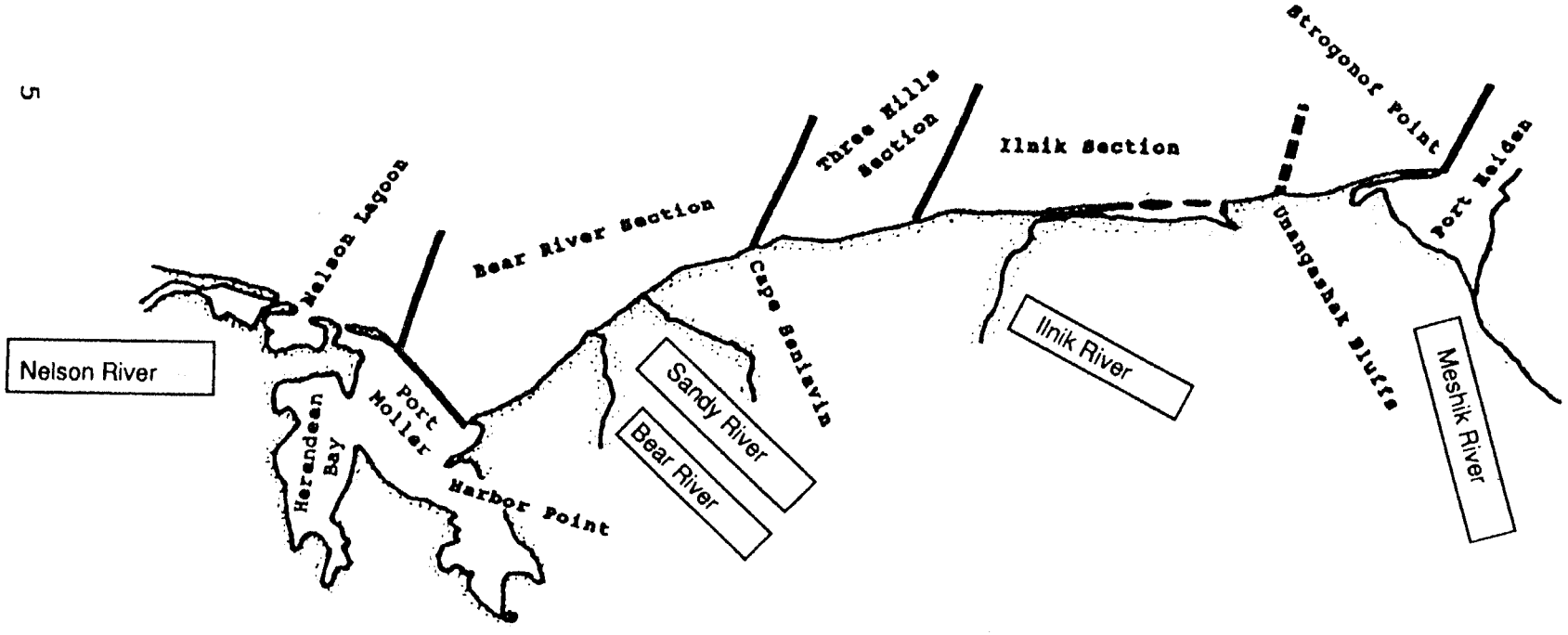

Figure 3. Map of the Harbor Point to Strogonof Point reach, with district sections and major sockeye systems depicted.

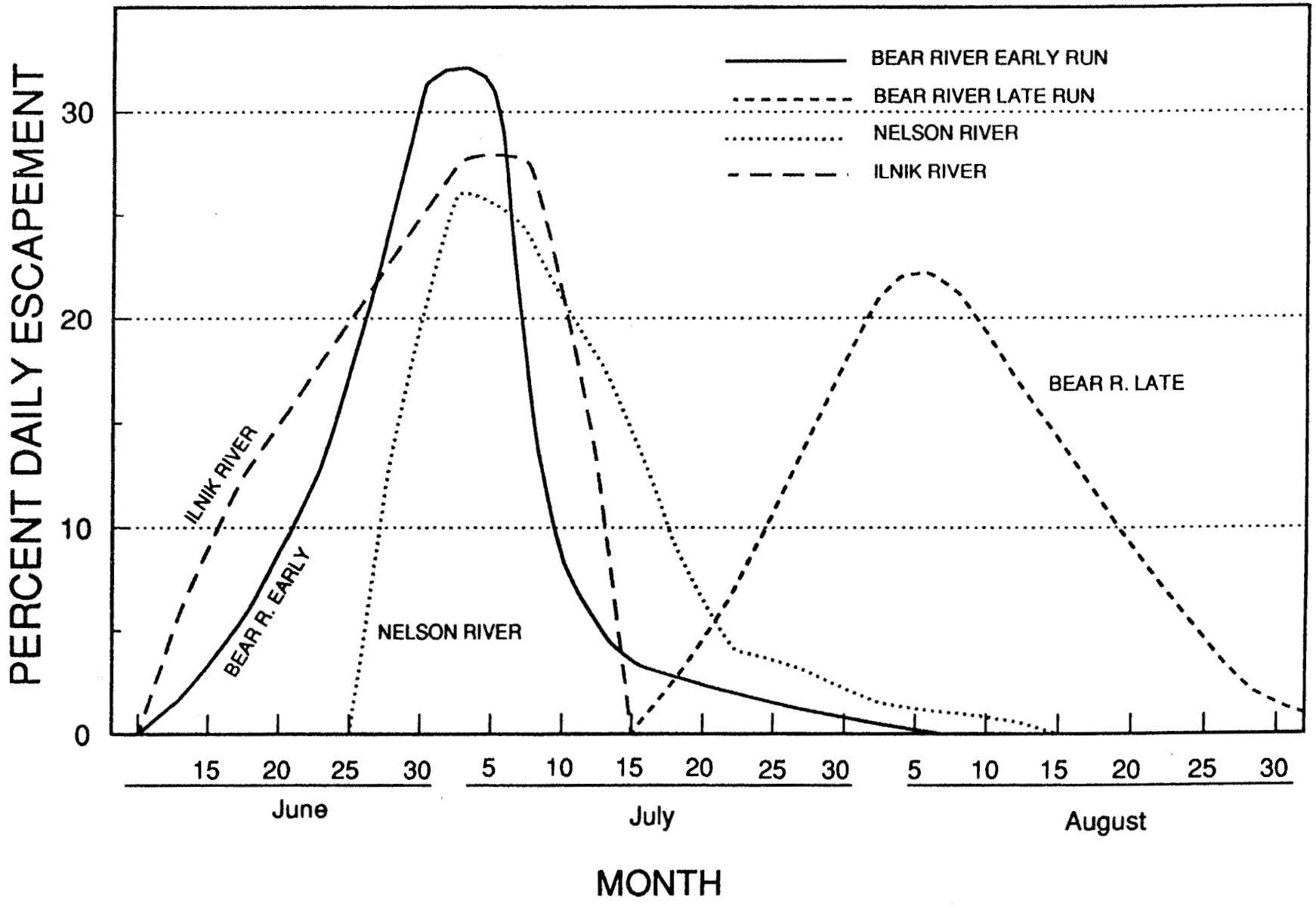

Figure 4. Approximate run timing of selected major North Peninsula sockeye salmon stocks based on escapement schedules.

During the last 10-years (1982-1991), the Port Moller to Strogonof Point catch has averaged about 1.5 million sockeye salmon (Figure 5) with the catch nearly evenly split between the Port Moller to Cape Seniavin (772,000) and Cape Seniavin to Strogonof Point (777,000) reaches.

In 1992, the sockeye salmon catch from Port Moller to Strogonof totaled 3.1 million fish, exceeding the previous record of 2.6 million (1986). Approximately, 1.4 million sockeye were harvested from Port Moller to Cape Seniavin, while the remaining 1.7 million catch was harvested between Cape Seniavin and Strogonof Point (Figure 5). Most of the Port Moller to Cape Seniavin catch occurred during two intervals; the first occurred in early July and the second in mid August. In comparison, nearly the entire catch from Cape Seniavin to Strogonof Point was harvested during the first two weeks of July (Figure 6).

In 1992, the sockeye salmon escapement goal for all NP systems was reached (Table 1). The estimated total escapement was 772,000. Most of the escapement occurred in the Bear (58%) and Nelson (25%) Rivers.

North Peninsula sockeye salmon stock separation studies for the Cape Seniavin to Strogonof Point reach are limited (Table 2). Geiger (1989) using scale pattern analysis estimated that most of the early July catch in 1987, 1988, and 1989 were local NP stocks, while the mid July catch in 1987 and 1988 was mainly Bristol Bay (Ugashik) fish. Stock composition estimates for mid-July 1989 were not made. The 1990 catch during 8-21 July was an estimated 78% Bristol Bay and 22% local North Peninsula fish (Swanton and Murphy 1992). Bear River and Nelson River were almost equaly abundant in this period.

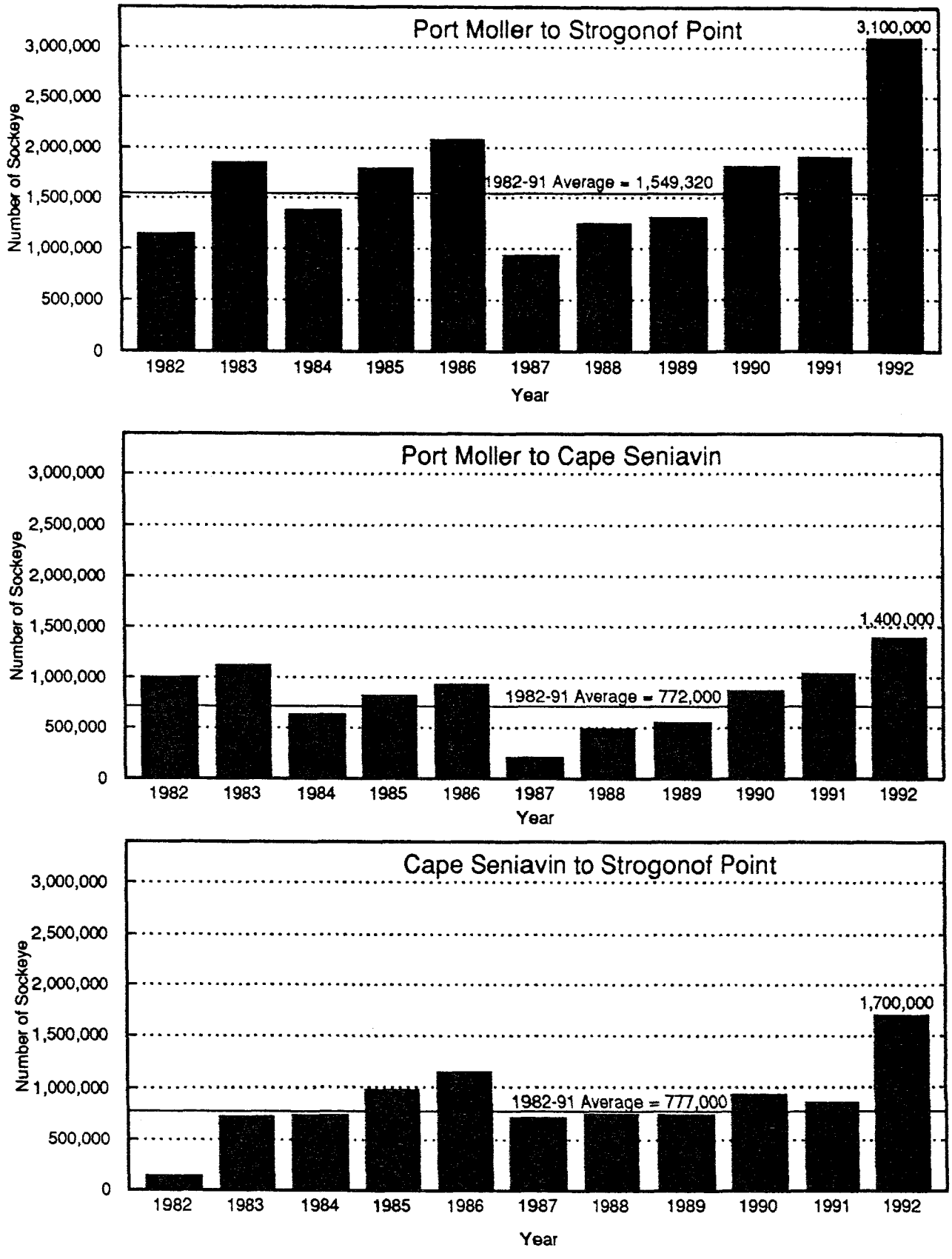

Figure 5. Port Moller to Strogonof Point annual sockeye salmon catches, 1982-92.

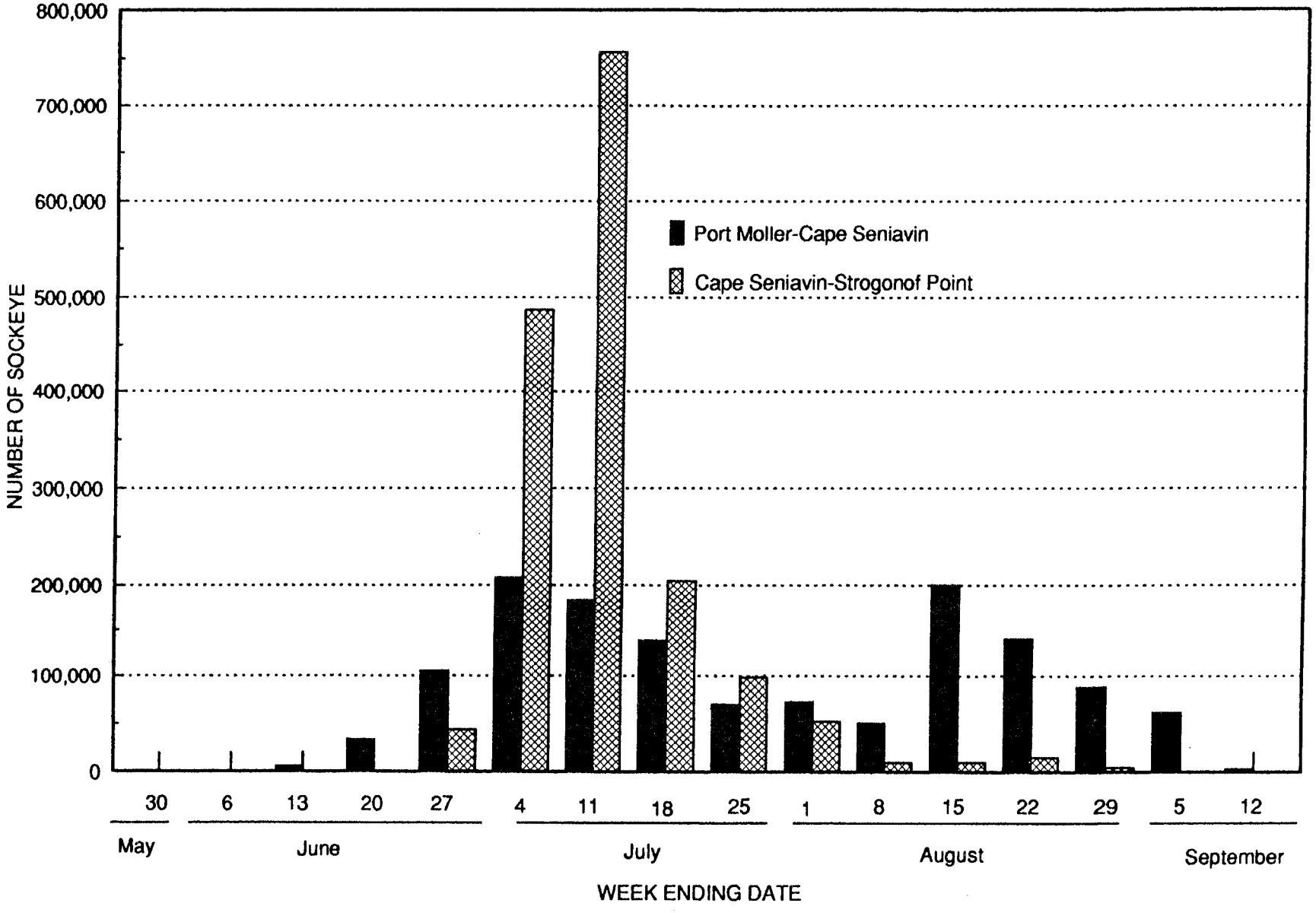

Figure 6. Port Moller to Strogonof Point sockeye salmon catch by week, 1992.

Table 2. Summary of North Peninsula sockeye stock separation studies, 1987-90.

Area	Year	Date	Commercial Harvest During This Period	Estimated Stock Composition	Source
Harbor-Seniavin					
	1988	19 June - 2 July	137,937	96% North Peninsula 4% Bristol Bay[a]	Geiger (1989)
	1990	8-21 July	118,157	10% Bear River[b] 48% Nelson River[b] 42% Bristol Bay	Swanton and Murphy (1992)
Seniavin-Strogonof					
	1987	7-13 July	1,363	59% North Peninsula 41% Bristol Bay[a]	Geiger (1989)
		14-21 July	2,162	29% North Peninsula 71% Bristol Bay[a]	Geiger (1989)
	1988	19 June - 2 July	104,655	90% North Peninsula 10% Bristol Bay[a]	Geiger (1989)
		3-9 July	396,246	85% North Peninsula 15% Bristol Bay[a]	Geiger (1989)
		10-16 July	184,511	34% North Peninsula 66% Bristol Bay[a]	Geiger (1989)
	1989	5 July (18 hr opening)	126,283	64% North Peninsula 36% Bristol Bay[a]	Geiger (1989)
	1990	8-21 July	763,786	11% Bear River[b] 11% Nelson River[b] 78% Bristol Bay	Swanton and Murphy (1992)

[a]Ugashik.
[b]North Peninsula.

Stock composition estimates of the sockeye salmon harvest from Port Moller to Cape Seniavin are limited to two partial years of data (Table 2). Local NP fish were an estimated 96% of the 1988 catch from 19 June to 9 July (Geiger 1989), and 58% of the 8-21 July 1990 catch (Swanton and Murphy 1992). It was also estimated that Nelson River fish contributed more to the 1990 fishery during the 8-21 July period than Bear River fish. In 1988, about 4% of the 19 June - 9 July catch was Bristol Bay (Ugashik) fish. In the 1990 catch of 8-21 July, 42% of the catch was estimated to be Bristol Bay origin.

Since 1985, the NP sockeye catch has been rigorously sampled for scales to document the age classes and to provide baseline data that may be useful for future research including stock composition studies. While scale pattern analysis has been used in the past to estimate the stock composition of NP July catches, current budget constraints do not make it possible to analyze the 1991 and 1992 fishery samples.

LITERATURE CITED

ADF&G (Alaska Department of Fish and Game) 1992. 1992-94 Bristol Bay and Westward Alaska commercial fishing regulations salmon and miscellanous finfish, 1992 edition. Alaska Department of Fish and Game, Division of Commercial Fisheries, Juneau.

Geiger, H.L. 1989. A Stock identification study in the Northern Alaska Peninsual sockeye salmon fishery, from Harbor Point to Strogonof Point. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 5J89-11, Juneau.

Murphy, R.L. 1991. Alaska Peninsula and Aleutian Islands Management Area catch, escapement, and run statistics, 1989. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 91-12, Juneau.

Swanton, C.O. and R.L. Murphy. 1992. Origins of sockeye salmon caught within the Harbor Point to Strogonof Point reach of the Alaska Peninsula Management Area. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 92-04, Kodiak.